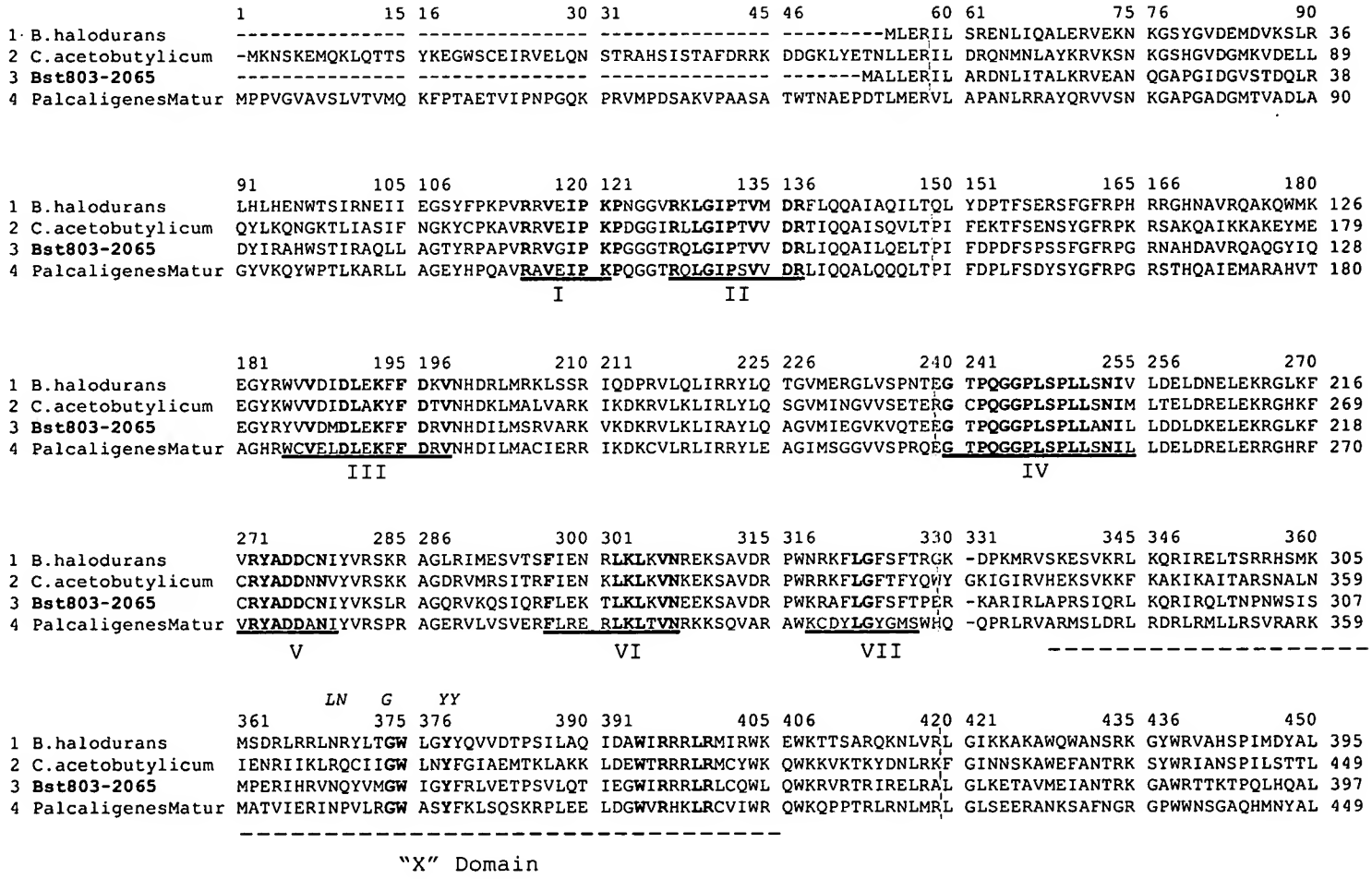
1 B.halodurans
2 C.acetobutylicum
3 Bst803-2065
4 PalcaligenesMatur
I
II
III
IV
V
VI
VII
LN G YY
"X" Domain

Fig. 1

B.

```
661 GATGTTGCGTGTCGAAGCAGAATTCCTTTCGGAACTCATCTGAGGAAGCAAGGGTGAAGC
721 CCAGAGGGCCTCAGATCGAGGGCTGAGCGCAACCCGGCAAGACCTGAATCTCATCCCGCG
781 GAAGGAGAAGGAGAAGATCACG
                                                        Bst755
     803 atggctttgttggaacgcatcttagcgagagacaacctcatcacg
         M  A  L  L  E  R  I  L  A  R  D  N  L  I  T
     848 gcgctcaaacgggtcgaagccaaccaaggagcaccgggaatcgac
         A  L  K  R  V  E  A  N  Q  G  A  P  G  I  D
     893 ggagtatcaaccgatcaactccgtgattacatccgcgctcactgg
         G  V  S  T  D  Q  L  R  D  Y  I  R  A  H  W
     938 agcacgatccgcgcccaactcttggcgggaacctaccggccggcg
         S  T  I  R  A  Q  L  L  A  G  T  Y  R  P  A
     983 cctgtccgcagggtcggaatcccgaaaccgggcggcggcacacgg
         P  V  R  R  V  G  I  P  K  P  G  G  G  T  R
    1028 cagctaggcattcccaccgtggtggaccggctgatccaacaagcc
         Q  L  G  I  P  T  V  V  D  R  L  I  Q  Q  A
    1073 attcttcaagaactcacacccattttcgatccagacttctcccct
         I  L  Q  E  L  T  P  I  F  D  P  D  F  S  P
    1118 tccagcttcggattccgtccgggccgtaacgcccacgatgccgtg
         S  S  F  G  F  R  P  G  R  N  A  H  D  A  V
    1163 cggcaagcgcaaggctacatccaggaagggtatcggtacgtggtc
         R  Q  A  Q  G  Y  I  Q  E  G  Y  R  Y  V  V
    1208 gacatggacctggaaaagttctttgatcgggtcaaccatgacatc
         D  M  D  L  E  K  F  F  D  R  V  N  H  D  I
    1253 ttgatgagtcgggtggcccgaaaagtcaaggataaacgcgtgctg
         L  M  S  R  V  A  R  K  V  K  D  K  R  V  L
    1298 aaactgatccgtgcctacctgcaagccggcgttatgatcgaaggg
         K  L  I  R  A  Y  L  Q  A  G  V  M  I  E  G
    1343 gtgaaggtgcagacggaggaagggacgccgcaaggcggccccctc
         V  K  V  Q  T  E  E  G  T  P  Q  G  G  P  L
    1388 agcccccctgctggcgaacatccttctcgacgatttagacaaggaa
         S  P  L  L  A  N  I  L  D  D  L  D  K  E
                                                        Bst1396
    1433 ttggagaagcgaggattgaaattctgccgttacgcagatgactgc
         L  E  K  R  G  L  K  F  C  R  Y  A  D  D  C
    1478 aacatctatgtgaaaagtctgcgggcaggacaacgggtgaaacaa
         N  I  Y  V  K  S  L  R  A  G  Q  R  V  K  Q
    1523 agcatccaacggttcttggagaaaacgctcaaactcaaagtaaac
         S  I  Q  R  F  L  E  K  T  L  K  L  K  V  N
    1568 gaggagaaaagtgcggtggaccgcccgtggaaacgggccttttctg
         E  E  K  S  A  V  D  R  P  W  K  R  A  F  L
    1613 gggtttagcttcacaccggaacgaaaagcgcgaatccggctcgcc
         G  F  S  F  T  P  E  R  K  A  R  I  R  L  A
    1658 ccaaggtcgattcaacgtctgaaacagcggattcgacagctgacc
         P  R  S  I  Q  R  L  K  Q  R  I  R  Q  L  T
    1703 aacccaaactggagcatatcgatgccagaacgaattcatcgcgtc
         N  P  N  W  S  I  S  M  P  E  R  I  H  R  V
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         N  Q  Y  V  M  G  W  I  G  Y  F  R  L  V  E
    1793 accccgtctgtccttcagaccatcgaaggatggattcggaggagg
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         E  I  A  N  T  R  K  G  A  W  R  T  T  K  T
    1973 ccgcaactccaccaggccctgggcaaaacctactggaccgctcaa
         P  Q  L  H  Q  A  L  G  K  T  Y  W  T  A  Q
                                                        Bst2015
    2018 gggctcaagagtttgacgcaacgatatttcgaactccgtcaaggt
         G  L  K  S  L  T  Q  R  Y  F  E  L  R  Q  G
    2063 tga
                                                CGAACCGCCTAGTGCGGACCCGCATGCTAGGTGGT
2102 GTGAGGGGACGGGGGTTAGCCGCCCCCTCCTACTCGATTCGTATTGTCATTCGGCGCTAT
2162 GCCACGCGAAACGGCCATGAACGTCAAGCCCTTCTCCTTGTTAGATCGTCTCCTTCCCGC
2222 GCACGCCGTTGATCGAATAGCTCGCTGTAATGGCGGCATTTAACGAATGGGAAACGGAAC
                                                        Bst2198
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Fig. 2

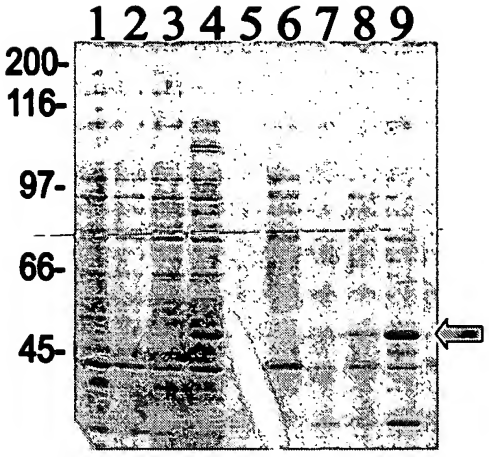


Fig. 3

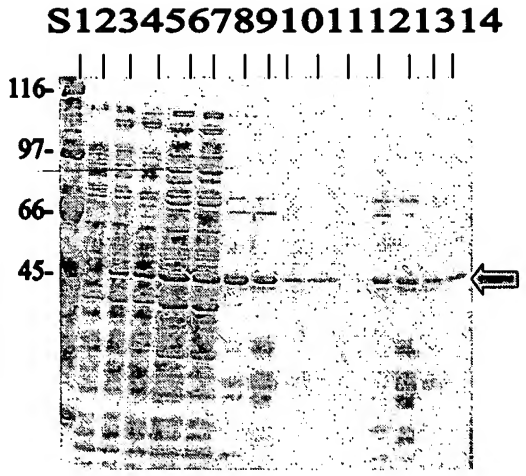


Fig. 4

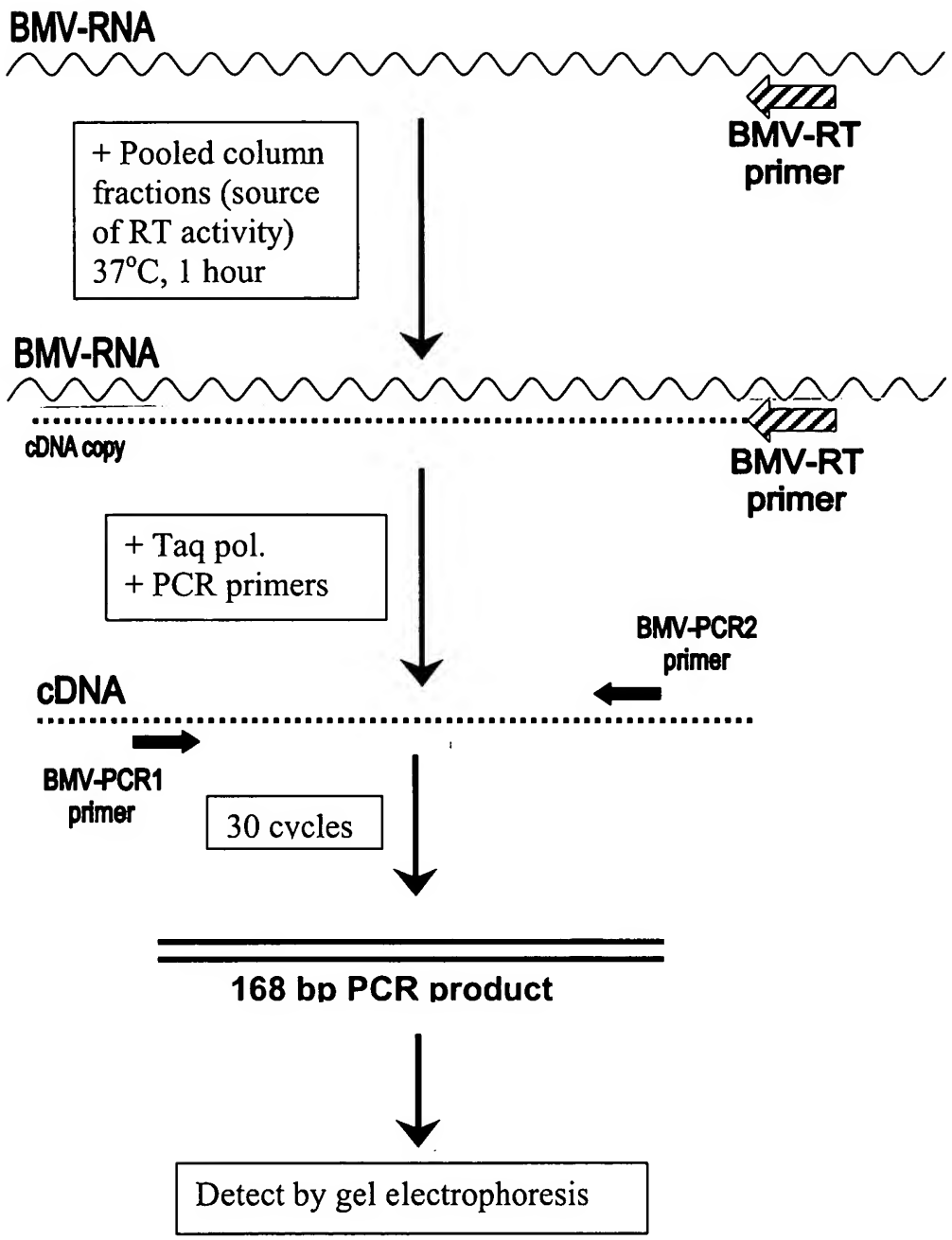


Fig. 5

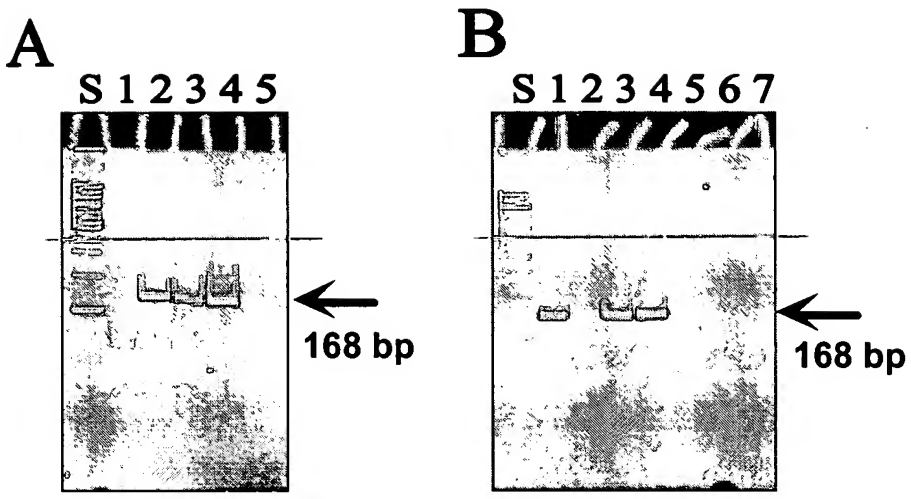


Fig. 6

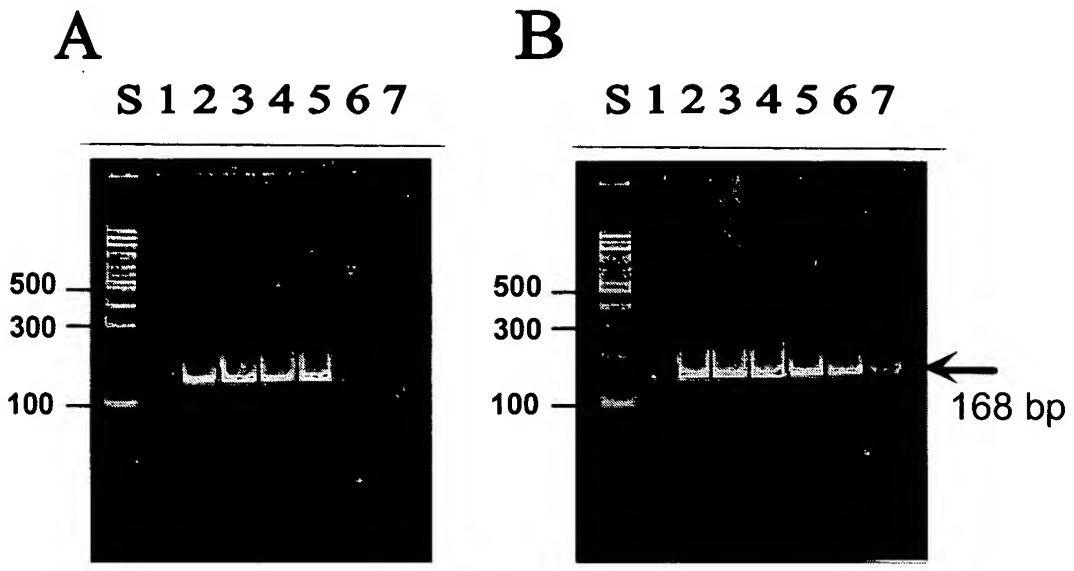
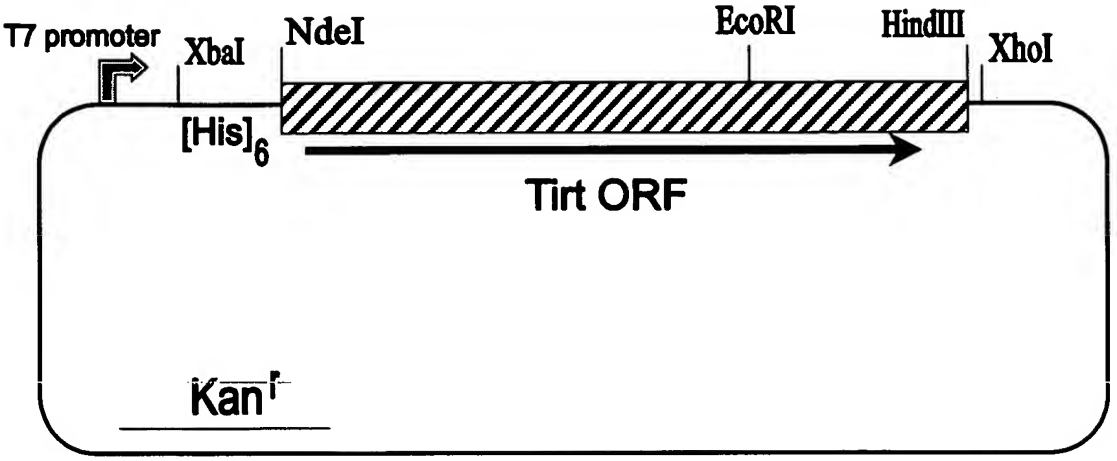


Fig. 7

A.



Plasmid pTirt#16

B.

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                                                        T7 promoter
  1 TGGNNNNAGT NTTTAAACCT TTGNACCGCC NTAATACNAC TCACTATAGG
      lac operator
 51 GGAATTGTGA GCGGATAACA ATTCCCCTCT AGAAATAATT TTNTTTAACT
            rbs                                  His-tag
101 TTAAGAAGGA GATATACCat gggcagcagc catcatcatc atcatcacag
                        M   G   S   S   H   H   H   H   H   H   S
                        > start of fusion   NdeI
151 cagcggcctg gtgccgcgcg gcagccatat gcggcaagac ctgaatctca
     S   G   L   V   P   R   G   S   H   M   R   Q   D   L   N   L   I

201 tcccgcggaa ggagaagatc acgatggctt tgttggaacg catcttagcg
      P   R   K   E   K   I   T   M   A   L   L   E   R   I   L   A
                                > start of Tirt ORF
251 agagacaacc tcatcacggc gctcaaacgg gtcgaagcca accaaggagc
    R   D   N   L   I   T   A   L   K   R   V   E   A   N   Q   G   A
```

Fig. 8